

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of:)	
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Rajeev K. Nalawadi, et al.)	Examiner: Bae, Ji H.
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Serial No.: 10/039,054)	Group Art Unit: 2115
)	
Filed: December 31, 2001)	
)	
For: Method and Apparatus for Generating)	
SMI From ACPI ASL Control Code to)	
Execute Complex Tasks)	
_____)	

AMENDMENT AND REPLY UNDER 37 C.F.R. § 1.111

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

In response to the outstanding non-final office action dated May 29, 2007,
Applicants respectfully request reconsideration in view of the following Amendment and
Remarks.

Amendments to the claims begin on page 3 of this paper.

Remarks begin on page 8 of this paper.

It is not believed that extensions of time are required beyond those that may
otherwise be provided for in documents accompanying this paper. However, if additional

extensions of time are necessary to prevent abandonment of this application, then such extensions of time are hereby petitioned under 37 C.F.R. § 1.136(a), and any fees required therefore are hereby authorized to be charged to Deposit Account No. 50-0221.

AMENDMENT TO THE CLAIMS

Listing of Claims:

1. (Currently Amended) A method for executing a predefined system management mode (SMM)-compatible task while operating under advanced configuration and power interface (ACPI) control, comprising:

generating a system management interrupt (SMI) request under ACPI control ~~when a complex task is encountered by detecting the predefined SMM-compatible task~~ under ACPI control and configuring a processor to access a SMI driver upon detecting the predefined SMM-compatible task;

changing an operation mode of a the processor to the SMM in response to the SMI request; and

executing a resume ACPI control process to return the processor to ACPI control after the predefined SMM-compatible task is complete.

2. (Original) The method according to claim 1, wherein changing the operation mode of a processor to the SMM further comprises:

saving processor state map information in a first area of a memory upon reception of the SMI request.

3. (Original) The method of claim 1, wherein generating a SMI request under ACPI control further comprises:

setting SMI enable in a SMI generation register.

4. (Cancelled)

5. (Currently Amended) The method of claim--4 1, wherein configuring the processor to access the SMI driver upon detecting the predefined SMM-compatible task comprises:

using a SMI generation register for generating the SMI request during operation of an operating system under ACPI control in response to detection of the predefined SMM-compatible task.

6. (Currently Amended) The method of claim--4 1, wherein a SMI generation register is configured to generate an SMI signal in response to recognition of the predefined SMM-compatible task.

7. (Currently Amended) A method for executing a predefined system management mode (SMM)-compatible task under advanced configuration and power interface (ACPI) control, comprising:

generating a system management interrupt (SMI) request during operation of an operating system under ACPI control ~~when a complex task is encountered by detecting the predefined SMM-compatible task under ACPI control and configuring a processor to access a SMI driver upon detecting the predefined SMM-compatible task;~~

changing a mode of a the processor to SMM in response to the SMI request;

executing tasks by the processor in the SMM mode;

delegating tasks to various processors to achieve faster execution in SMM mode;

and

returning the processor to ACPI control after the predefined SMM-compatible task is complete.

8. (Original) The method of claim 7, wherein generating a SMI request under ACPI control further comprises:

setting SMI enable in a SMI generation register.

9. (Original) The method of claim 7, wherein changing a mode of a processor to SMM in response to the SMI request further comprises:

saving processor state map information in an area of memory upon reception of the SMI request, and changing the mode of the processor to the SMM.

10. (Cancelled)

11. (Currently Amended) The method of claim 40 ~~7~~, wherein configuring the processor to access the SMI driver upon detecting the predefined SMM-compatible task comprising:

using a SMI generation register for generating the SMI request during operation of an operating system under ACPI control in response to detection of the predefined SMM-compatible task.

12. (Currently Amended) The method of claim 40 ~~7~~, wherein a SMI generation register is configured to generate an SMI signal in response to recognition of the predefined SMM-compatible task.

13. (Currently Amended) A machine readable medium having stored therein a plurality of machine readable instructions executable by a processor to execute a predefined system management mode (SMM)-compatible task in SMM while under advanced configuration and power interface (ACPI) control, comprising:

instructions to generate a system management interrupt (SMI) request during operation of an operating system under ACPI control when a complex task is encountered by detecting the predefined SMM-compatible task under ACPI control and configuring the processor to access a SMI driver upon detecting the predefined SMM-compatible task;

instructions to change a mode of a the processor to SMM in response to the SMI request;

instructions to execute tasks by the processor in the SMM mode; and

instructions to return the processor to ACPI control after the predefined SMM-compatible task is complete.

14. (Original) The machine readable medium of claim 13, wherein instructions to generate a SMI request during operation of an operating system under ACPI control further comprises:

instructions to set SMI enable in a SMI generation register.

15. (Original) The machine readable medium of claim 13, wherein instruction to change a mode of a processor to SMM in response to the SMI request further comprises:

instructions to save processor state map information in an area of memory upon reception of the SMI request, and changing the mode of said processor to the SMM.

16. (Cancelled).

17. (Currently Amended) The machine readable medium of claim 46 13, wherein instructions to configure the processor to access the SMI driver upon detecting the predefined SMM-compatible task further comprises:

instructions to generate the SMI request during operation of an operating system under ACPI control in response to detection of the predefined SMM-compatible task.

18. (Currently Amended) The machine readable medium of claim 46 13, further comprising:

instructions to configure a SMI register to generate a SMI signal in response to recognition of the predefined SMM-compatible task.

REMARKS

Claims 1-3, 5-9, 11-15, 17 and 18 are pending in the application. Claims 1, 7 and 13 are the independent claims. Claims 1, 5-7, 11-13, 17 and 18 are sought to be amended. Claims 4, 10 and 16 are sought to be cancelled without prejudice or disclaimer. Entry and consideration of this Amendment is respectfully requested. No new matter is believed to have been introduced by this Amendment.

Applicants have made the above Amendment to more particularly point out and distinctly claim the subject matter which Applicants regard as the invention. Based on the above Amendment and the following remarks, Applicants respectfully request that the Examiner reconsider and withdraw all outstanding rejections.

Objection to the Specification

The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter in claims 13-18 that recite: A machine readable medium having stored therein a plurality of machine readable instructions. Applicants respectfully disagree with the Examiner. The originally filed specification of the instant application on page 8 describes the invention as follows (underline added):

FIG. 3 illustrates a flow diagram of an embodiment 300 of a process for enabling a control method executed by the operating system under ACPI control to handle tasks, including complex tasks. The processor along with a memory includes a software routine that, during runtime, detects the assertion of a signal on the task register bit

connected to the device. The assertion of the signal on the task register bit and then determination that the task comprises a complex task suitable for execution by the SMI handler, calls the software routine. The software routine obviates the need for the ACPI ASL code to execute complex instructions more suitable for the SMI handler to execute. Enable bits are read and written by software, and indicate to the system whether a task occurrence from a particular device is to be executed by the SMI handler instead.

Applicants respectfully assert that the discussion of the present invention being implemented via a “software routine” in the specification provides the proper antecedent basis for the claimed subject matter in claims 13-18 because one skilled in the art knows that software is embodied in a machine readable medium having stored therein a plurality of machine readable instructions (as claimed). Accordingly, Applicants respectfully request that the Examiner reconsider and withdraw the objection to the specification.

Claim Discussion - 35 USC §112, second paragraph

Claims 1-18 are rejected under 35 USC §112, second paragraph, as being indefinite regarding the claim language of “complex task”. Applicants have amended claims 1-18 to delete all references to a “complex task” from the claims. Accordingly, Applicants respectfully request that the Examiner reconsider and withdraw the 35 USC §112, second paragraph, rejection to claims 1-18.

Claim Discussion — 35 USC §§102 and 103(a)

The Examiner rejected claims 1 and 13 under 35 USC §102(b) as being anticipated by Hobson, US Patent No. 6,122,748. The Examiner rejected claims 2, 3, 7-9, 14 and 15 under 35 USC §103(a) as being unpatentable over Hobson in view of Intel [Intel's SL Enhanced Intel486 Microprocessor Family, June 1993]. Applicants respectfully traverse these rejections with regard to claims 1-3, 7-9 and 13-15 since Hobson and Intel, either taken alone or in combination, do not teach or suggest independent claims 1, 7 and 13 for at least the following reason.

Independent claims 1, 7 and 13 have been amended to incorporate the subject matter of claims 4, 10 and 16, respectively. Claims 4, 10 and 16 are not rejected due to prior art. Accordingly, Applicants assert that amended claims 1, 7 and 13 (and their respective pending dependent claims) are patentable over the art of record. Accordingly, Applicants respectfully request that the rejections under 35 U.S.C. §§ 102(b) and 103(a) be reconsidered and withdrawn.

INVITATION FOR A TELEPHONE INTERVIEW

The Examiner is invited to call the undersigned, Molly A. McCall, at (703) 633-0931 if there remains any issue with allowance of the case.

CONCLUSION

Applicants respectfully submit that all of the stated grounds of rejection have been properly traversed, accommodated or rendered moot. Applicants believe that a full and complete response has been made to the outstanding Office Action. Thus, Applicants believe that the present application is in condition for allowance, and as such, Applicants respectfully request reconsideration and withdrawal of the outstanding rejections, and allowance of this application.

Respectfully submitted,

Intel Corporation

Dated: August 29, 2007

/Molly A. McCall/ Reg. No. 46,126

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